

Provisional  
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# **2002 Interim Protocols For The Operation of The Environmental Water Account**

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## **2002 Interim Protocols for the Operations of the Environmental Water Account**

The following are interim protocols for operating the Environmental Water Account in 2002. These protocols, which provide clarification of specific EWA Operating Principles, may be modified or added to during the course of the year. Modifications to the protocols may be developed by the Project Agencies and the Management Agencies.

### **A. Storage**

#### **1) Article II. Section 2.e.i. Priority of EWA to Project Storage**

The priority for storage space in upstream project reservoirs is as follows:

- SWP (from lowest to highest priority)
  - ✓ EWA
  - ✓ SWP project water
- CVP (from lowest to highest priority)
  - ✓ Non-Project water
  - ✓ EWA
  - ✓ Refuge Level IV
  - ✓ CVP project water

The priority for storage space in San Luis Reservoir is as follows:

- SWP (from lowest to highest priority) (See Figure 1, page 3)
  - ✓ CVP encroachment, State Water Project contractor non-Project water when SWP has allocated 100% of requested amount, and Third Party water
  - ✓ CVC
  - ✓ EWA
  - ✓ SWP contractor non-Project water when SWP has not allocated 100% of requested amount
  - ✓ SWP project water
- CVP (from lowest to highest priority) (See Figure 2, page 4)
  - ✓ SWP encroachment and non-CVP water
  - ✓ EWA
  - ✓ CVC
  - ✓ Refuge Level IV
  - ✓ Rescheduled Water
  - ✓ CVP project Water

The issue of the SWP using the CVP share of San Luis Reservoir is addressed in the second paragraph of Article II. Section 2.e.i., but is silent on the CVP using the SWP share of storage. The Project Agencies concur with the Management

Agencies that the intent of this paragraph is to apply the same rules to the CVP as to the SWP. The following provides additional clarification on the priorities of EWA storage in San Luis Reservoir.

- The CVP can encroach into the SWP share of San Luis to the extent that such encroachment does not (1) impact the SWP operations or (2) cause the EWA to be spilled out of the SWP share of San Luis.
- The same rule applies for the SWP use of the CVP share of San Luis Reservoir.

An issue that has not been adequately addressed within the Operating Principles is the priority for moving water from San Luis Reservoir to avoid or minimize spilling EWA assets. The concern is that EWA water may be forced out of San Luis because the Projects are capable of filling the reservoir. The EWA may have a place to store the water (i.e. groundwater storage in Kern County), but will not have any way of conveying the water to the new storage location. To ensure this does not occur, DWR will provide 600 cfs of conveyance capacity to move EWA water from San Luis Reservoir to other storage facilities in the San Joaquin Valley through April 30. However, if an unexpected conveyance outage occurs that limits the amount of water that can be conveyed to meet SWP and EWA requirements, the capacity made available to the EWA would be prorated as:

$$EWA_{\text{pumping}} = (ACC) * (EWA_{\text{rp}}) / (TRP)$$

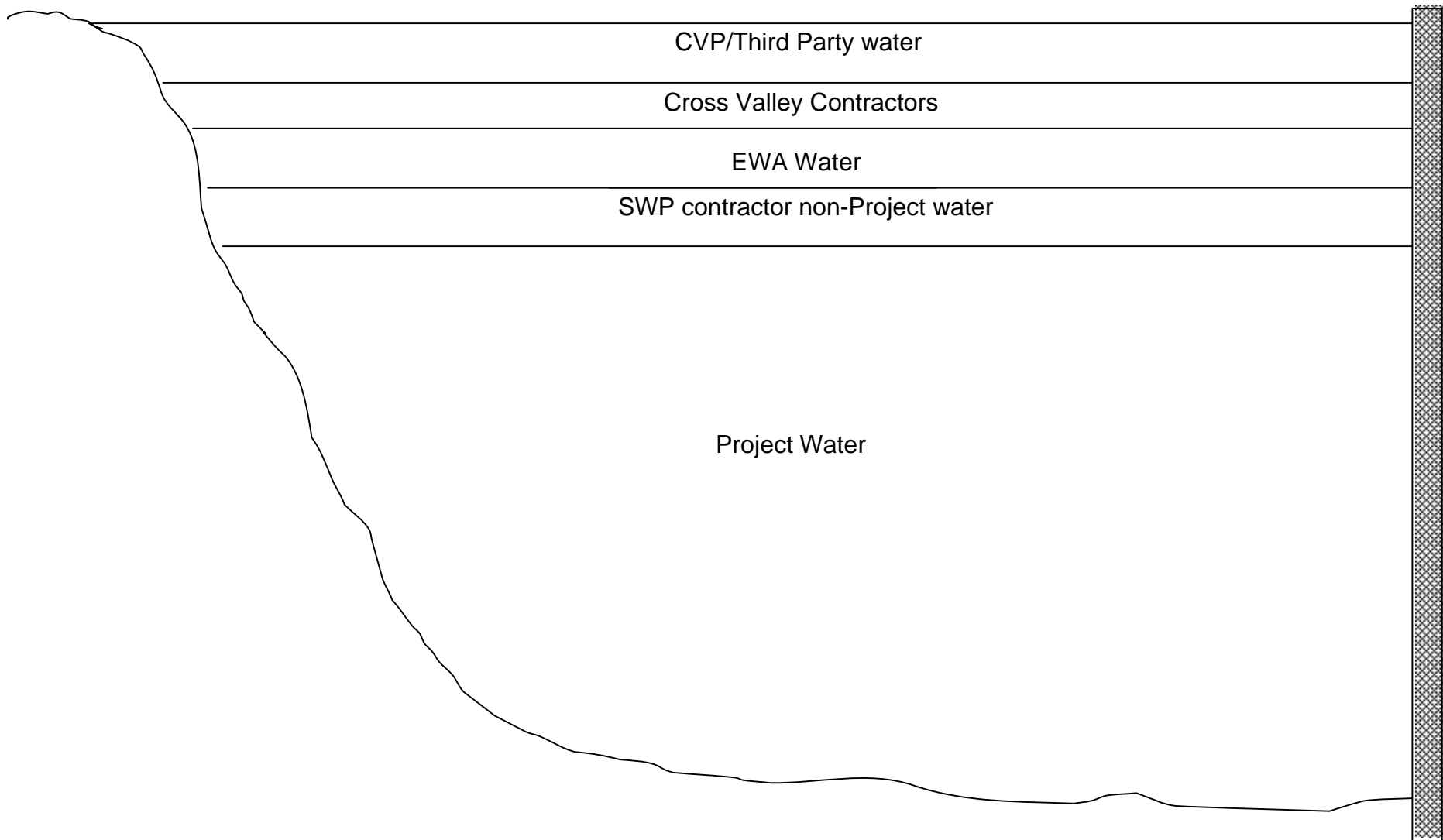
Where:

- ✓ ACC is the available conveyance capacity along the California Aqueduct.
- ✓  $EWA_{\text{rp}}$  is the amount of pumping requested/needed for moving EWA water.
- ✓ TRP is the total amount of pumping desired to meet both SWP and EWA needs

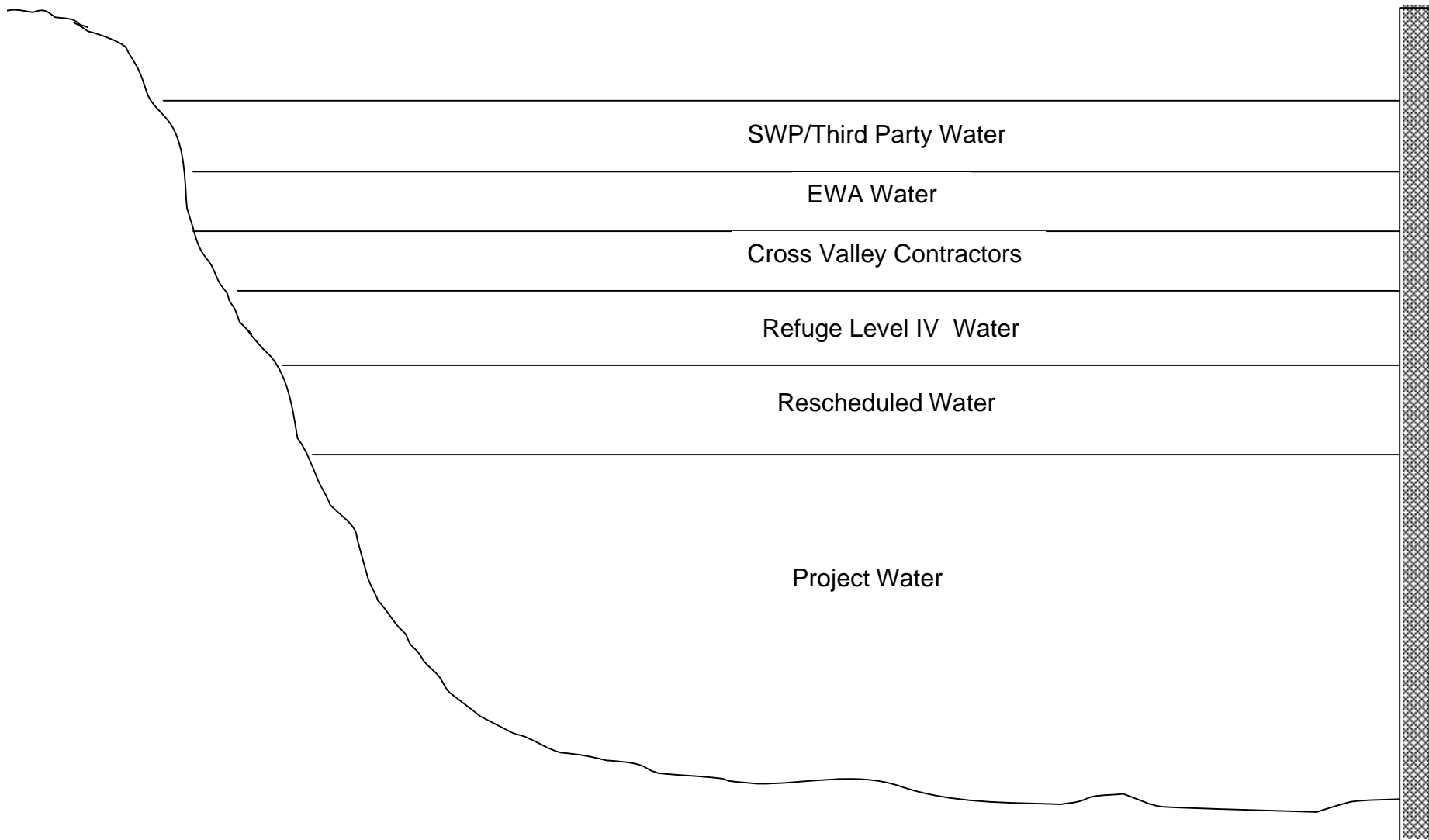
## **2) Article II. Section 2.e.ii. Protocols or Standards For Storage, Spill, and Loss of EWA Water in Upstream Project Reservoirs**

Flexibility of SWP operations to back off of upstream releases in whole or in part may be credited to EWA as an upstream asset for future use, however, EWA does not get credit against current curtailment.

**Figure 1**  
**SWP Portion of San Luis Reservoir**  
**Storage Priorities for EWA Purposes**



**Figure 2**  
**CVP Portion of San Luis Reservoir**  
**Storage Priorities for EWA Purposes**



## **B. Conveyance**

### **1) Article II. Section 2.d. Use of Excess Capacity**

When there is a competing need for conveyance between the EWA and Level 4 Refuge water, the Management Agencies and the Project Agencies will consult to seek a schedule that balances the needs of both environmental programs.

### **2) Article II. Section 2.d.i. Excess Capacity**

The term “project operational requirements and contract commitments” include (1) pumping water from the Delta by one project and placing the water into the other project’s share of San Luis Reservoir, and (2) the movement of Level 4 water during balanced conditions at CVP facilities (this applies to the CVP only). The Projects allow for each to encroach into the other’s share of San Luis Reservoir. This is permissible as long as it does not result in the “spill” of EWA water that is being stored in San Luis Reservoir.

### **3) Article III. Section 1.b.i. Sharing of b(2) and ERP water pumped by the SWP.**

This section of the Operating Principles states that the SWP will share equally with the EWA any b(2) or ERP water that is pumped by the SWP which exceeds the export capacity of the CVP Tracy Pumping Plant. The Department agrees that one half of such water pumped by the SWP will be credited to the EWA and either (1) pumped into the SWP share of San Luis Reservoir or (2) convey to a storage facility elsewhere in the San Joaquin Valley. This sharing occurs when one of the following two conditions exist:

- a) The Delta is in balanced conditions with suspended COA accounting. Balanced conditions are declared through mutual agreement by DWR and Reclamation and are based on conditions when releases from upstream reservoirs plus unregulated flow approximately equal the water supply needed to meet Sacramento Valley in-basin uses, plus CVP and SWP exports.

The COA accounting is suspended due to the inability of the CVP to export its share of storage withdrawals and unstored water for export. This imbalance must be caused in part by b(2) or ERP upstream releases.

- b) Project exports are controlled by the Export/Inflow ratio. The release of upstream b(2) or ERP releases may result in an incremental increase in SWP exports most likely due to the inability of the CVP to capture the incremental increase at its export facilities.

**4) Article III. Section 1.b.ii. Joint Point: SWP Wheeling of CVP and EWA water**

The principles contained in this section of the Operating Principles regarding the split between the CVP and EWA for use of JPOD at Banks also applies to use of JPOD at the Tracy Pumping Plant for CVP wheeling of SWP and EWA water.

**5) Article III. Section 1.b.iv.(A). Relaxation of the Section 10 Constraint.**

Permission has been obtained from the Corps to increase the base diversion rate by the equivalent of 500 cfs to 7,180 cfs for the months of July, August, and September, through 2002. The purpose of this is to increase diversions into CCF for use by the SWP to recover export reductions made due to the Endangered Species Act (ESA) or other actions taken to benefit fishery resources. This 500 cfs will be dedicated in its entirety to pumping for the EWA. Permits and environmental documentation preclude the use of this asset for any other purpose.

**6) Article III. Section 1.b.iv.(B). Relaxation of the Export/Inflow Ratio**

This section of the Operating Principles adequately addresses flexing the E/I ratio for the EWA.

**C. Pumping Priorities at the Export Facilities**

This protocol clarifies the priorities for on/off peak pumping at each Project's export facility.

The priority for pumping is as follows:

- SWP (from lowest to highest priority)
  - ✓ Water transfers for others
  - ✓ Wheeling for CVP and EWA
  - ✓ JPOD use for specific CVP Contractors
  - ✓ Water Transfers for SWP contractors
  - ✓ SWP Pumping
- CVP (from lowest to highest priority)
  - ✓ Water transfers for others
  - ✓ EWA
  - ✓ Cross Valley Canal
  - ✓ Refuge Level IV
  - ✓ CVP Pumping

#### **D. Borrowing**

##### **1) Article II. Section 2.c. Borrowing: No Reduction in Deliveries**

The same principles that apply to the EWA borrowing Project water apply to the Project Agencies borrowing EWA water. Criteria for borrowing and payback will be provided in specific proposals submitted by the Project Agencies when they desire to borrow water from the EWA or Management Agencies when they desire to borrow water from the Projects. Proposals are to include (1) the quantity of water to be borrowed, (2) the term of the loan, and (3) specific criteria for repaying the water to the lender.

#### **E. Cost of Conveyance/Storage of Non-Project Water**

A series of protocols must be written to address accounting, financial planning and on-going coordination between the CVP, SWP, and EWA. Until such protocols are drafted and approved, the Project Agencies will continue to provide conveyance and storage for EWA assets and track their costs.

#### **F. Acquiring Energy for the EWA**

The Project Agencies are working on the protocols to address energy between years 2001 and 2004.

#### **G. Incidental Take Associated with Acquisition and Use of EWA Assets**

##### **1) Article II. Section 4. The EWA Shall Be Responsible For Mitigating Its Water Quality, Water Rights, and Environmental Impacts As Required By Law**

Whenever an EWA asset is acquired, stored or moved under a project water right the existing regulatory actions will be utilized. This includes the incidental take statements under the existing biological opinions.

#### **H. Losses – Carriage, Conveyance and Storage**

Operational losses (which include carriage, conveyance, and storage) reduce the quantity of purchased water delivered from the seller to the buyer's point of delivery. When EWA actions are taken, losses are either avoided (by a curtailment) or occur along the system (moving water into storage), and must be accounted for to ensure that there was no net loss or net gain of water to the Projects.

SWP operational losses are determined as follows:

- Carriage losses – are those losses associated with the movement of water from upstream sources through the Delta to the export facilities, depending upon the water quality in the Delta. Modeling is performed in order to determine what the corresponding carriage water losses should be for water transfers.
- Conveyance losses – are those losses (which include seepage and evaporation) associated with the movement of water within the aqueduct system. An annual percentage of loss for each Reach was calculated, for the years 1991 to 1998, as the total annual Reach loss divided by the total annual Reach conveyance<sup>3</sup>. The average of the annual percentage for this eight-year period is used in charging and crediting conveyance losses to EWA operations. Because total annual conveyances and losses are used for this calculation, all actions are charged or credited at the same rate regardless of when they occur. Losses are charged or credited only for those reaches and facilities of the aqueduct system affected by the EWA operation.
- Storage losses – are those losses associated with water stored in reservoirs or groundwater banks. Losses are assessed on the EWA water stored in reservoirs based upon daily evaporation as a percentage of total water storage. The total evaporation loss for an EWA asset is the accumulation of the daily evaporation (based upon the percentage of EWA water each day) for the duration that EWA asset is stored in the facility. Water stored in groundwater banks also has associated losses that vary by facility and quantity of water placed and/or recovered in each facility. These are assessed as a condition of the storage contract for each facility. The assets that are released immediately to the affected Project as payment for an operational curtailment do not accrue storage losses.

### **I. Interrelationship of Tier 2 and Tier 3**

Tier 3 is referenced on pages 57 and 58 of the CALFED August 2000 Record of Decision (ROD) in the following context:

#### ***ESA Commitments***

*As part of the MSCS Conservation Agreement and the FWS and NMFS biological opinions, the CALFED Agencies have provided a commitment, subject to specified conditions and legal requirements, that for the first four years of Stage 1, there will be no reductions, beyond existing regulatory levels, in CVP or SWP Delta exports resulting from measures to protect*

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<sup>3</sup> This time period includes four Critical and four Wet/Above Normal years to represent the potential variance under varying hydrology. The average annual reach loss is considered to accurately reflect potential losses during EWA operations.

*fish under FESA and CESA. This commitment is based on the availability of three tiers of assets:*

***Tier 1*** is baseline water, provided by existing regulation and operational flexibility as described above. The regulatory baseline consists of the biological opinions on winter-run salmon and delta smelt, 1995 Delta Water Quality Control Plan, and 800 TAF of CVP Yield pursuant to CVPIA Section 3406(b)(2).

***Tier 2*** consists of the assets in the EWA combined with the benefits of the ERP and is an insurance mechanism that will allow water to be provided for fish when needed without reducing deliveries to water users. (These assets are shown in the table on page 58 of the ROD). Tier 1 and Tier 2 are, in effect, a water budget for the environment and will be used to avoid the need for Tier 3 assets as described below.

***Tier 3*** is based upon the commitment and ability of the CALFED Agencies to make additional water available should it be needed. It is unlikely that assets beyond those in Tier 1 and Tier 2 will be needed to meet ESA requirements. However, if further assets are needed in specific circumstances, the third tier will be provided. In considering the need for Tier 3 assets, the fishery agencies will consider the views of an independent science panel. Although the CALFED Agencies do not anticipate needing access to Tier 3 of water assets, the CALFED Agencies will prepare an implementation strategy for Tier 3 by August 2001, establishing a timely scientific panel process and identifying tools and funding should implementation of Tier 3 prove necessary.

### **Tier 3 Protocols**

1. **Tier 3 is not an operational reserve for Tier 2.** The CALFED agencies agree that Tier 3 actions are separate from EWA and that the EWA should not rely upon the existence of Tier 3 assets in its planning or operations. Tier 3 is a fail-safe device, intended to be used only when Tier 1 and Tier 2 are insufficient to avoid jeopardy to the continued existence of an endangered or threatened species.
2. Tier 3 assets will be used when: (1) EWA assets are exhausted (see Item 3), and (2) the Management Agencies determine that jeopardy due to project operations will occur unless additional measures are taken (see Item 4 below).
3. EWA assets are defined as exhausted when all real assets have been used and the limit on borrowing has been reached. The real assets include (1) the 185 TAF of fixed assets that are being acquired for 2002, and (2) any variable assets that have been accrued or can reasonably be acquired in the near future. For 2002, the initial limit on borrowing has been established as 100 TAF. This amount represents the amount of

water that could be extracted from groundwater in any single year. Additional borrowing may be developed through the year, but would be on a case-by-case basis.

4. The appropriate Management Agencies will make the determination that a species will be jeopardized if project operations are not modified. The Management Agencies will request and consider the views of an independent science panel. At a minimum, this science panel will consist of the two EWA science advisors who are expected to respond within 48 hours. If sufficient time is available, additional independent scientists may be consulted. The Management Agencies have the discretion to take action while awaiting feedback from the science panel.

**5. Tier 3 assets will be used to the extent available to compensate the Projects and water users for impacts to their water supply from actions taken to avoid jeopardy.** If all Tier 3 assets are used, and additional actions are needed to avoid jeopardy, ESA consultation regarding project operations will be re-initiated. The biological opinion on re-initiation will include reasonable and prudent alternatives necessary to avoid jeopardy. Actions to avoid jeopardy will not be limited by the “no harm” principle (i.e.: there is no commitment that all water supply losses can be fully mitigated).

**6. The State and Federal Projects will be responsible for making preparations for the activation of Tier 3.** DWR and USBR are responsible for making preparations for the activation of Tier 3, just as they are responsible for acquiring EWA assets. Such preparations could include the acquisition or identification of water purchase options that could be converted easily into water. The cost of exercising the options would be paid by the Tier 3 fund. The Project Agencies should work cooperatively with the EWAT and other CALFED-related water purchase programs in developing any Tier 3 purchase plan.

## **J. Operation of the Delta Cross Channel Gates During January 2002**

### **1) Article II. Section 2.b.v. Cross Channel Gate Closure**

Delta Cross Channel Gates will be operated pursuant Article II. Section 2.b.v. of the Operating Principles. This section states, “Impacts on project deliveries of any closure of the Delta Cross Channel Gates pursuant to State Water Resources Control Board (SWRCB) Decision D-1641 or any future decision implementing those objectives in the SWRCB’s 1995 Water Quality Control Plan allowing for discretionary Gate closure for fishery purposes shall be attributed to the Regulatory Baseline. Recognizing potential conflicts that may arise during dry conditions, the Project Agencies and the Management Agencies will ensure full consideration of all appropriate factors required for a decision based on the then-available best scientific data and evaluation, particularly including water supply, water quality, and endangered species as wells as tradeoffs. The EWA shall compensate the Projects pursuant to these principles when the Management Agencies advise Reclamation to

close the Gates for a time outside such regulatory baseline conditions and such closure leads to export reductions.” The WOMT process will be used to ensure the full consideration of all appropriate factors identified above.

## **K. Definition of Functional Equivalent**

### **1) Article I. Section 2.f. One-Time Acquisition of Stored Water Equivalent**

This section of the Operating Principles provides that actions to protect fish may be taken to the degree the EWA has assets to cover such water expenditures. As a means of providing collateral for such actions, the Operating Principles provided that 200 TAF of stored water (or its functional equivalent) would be provided for the EWA. During the first year of operation, insufficient funds were available to acquire 200 TAF of storage space that would be available to the EWA. Therefore, the Project Agencies will allow borrowing that is functionally equivalent to this EWA asset and its prudent recharge as set forth below.

In any given year, up to 100 TAF may be borrowed against the subsequent year EWA assets provided the following:

1. The borrowed assets are paid back to the Projects. This occurs when (1) variable assets are used to pay back the debt as they accrue during the next year, or (2) hydrology is sufficient to allow San Luis Reservoir to be filled to the level it would have been absent EWA actions that required borrowing.
2. The borrowed assets may be carried over into a subsequent year beyond 2003 if the Project Agencies determine such action (1) will not impact CVP/SWP allocations in 2003 or (2) the EWA can provide sufficient source shifting to avoid impacting storage in San Luis Reservoir at its low point in 2003.
3. Sufficient funding must be provided to acquire the necessary fixed assets for 2003 (185 TAF) plus additional water to repay the amount borrowed. If funding is insufficient to acquire the necessary assets and repay debt, and it is not possible to carryover the debt to 2004, the Project Agencies and Management Agencies will meet to consider alternative repayment options. The objective for both the Project and Management Agencies is to ensure continued EWA operations.